The 9th International Conference on Control and Optimization with Industrial Applications, 27-29 August 2024, İstanbul, Türkiye

Bullen Type Inequalities for Convex Functions on the Co-ordinates

Erdal Gül
Department of Mathematics
Yıldız Technical University
Istanbul, Türkiye
egul34@gmail.com

Erkan Zülfikar
Department of Mathematics
Yıldız Technical University
Istanbul, Türkiye
erkan.zulfikar@std.yildiz.edu.tr

Abdullatif Yalçın
Department of Mathematics
Yıldız Technical University
Istanbul, Türkiye
abdullatif.yalcin@std.yildiz.edu.tr

Abstract

Bullen inequality, along with classical inequalities such as Hermite Hadamard, Jensen and Ostrowski's inequality, has an important place in theory. It has wide usage in many areas with its application areas such that for averaged midpoint-trapezoid quadrature rules and applications in numerical integration. In this study, in order to obtain a variant of the Bullen inequality, an integral identity with double integrals is given. With the help of this identity, many inequalities have been demonstrated for convex functions in coordinates and reduced results have been mentioned for the bounded functions.

Keywords: Bullen-Type Inequality, Co-Ordinates, Co-Ordinated Convex Functions.